



Hazard Communication Information Sheet
reflecting the US OSHA Implementation of the
*Globally Harmonized System of Classification
and Labelling of Chemicals (GHS)*

Produced by the SCHC-OSHA Alliance
GHS/HazCom Information Sheet Workgroup

Self Heating Chemicals

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How does OSHA's Hazard Communication Standard (HCS 2012) define self heating chemicals?

A self-heating chemical is a solid or liquid chemical, other than a pyrophoric liquid or solid, which, by reaction with air and without energy supply, is liable to self-heat; this chemical differs from a pyrophoric liquid or solid in that it will ignite only when in large amounts (kilograms) and after long periods of time (hours or days).

NOTE: Self-heating of a substance or mixture is a process where the gradual reaction of that substance or mixture with oxygen (in air) generates heat. If the rate of heat production exceeds the rate of heat loss, then the temperature of the substance or mixture will rise which, after an induction time, may lead to self-ignition and combustion.

How does HCS 2012 classify self heating chemicals?

A self-heating chemical is classified in one of the two categories for this hazard class if the results meet the criteria shown in Table 1 and the tests are performed in accordance with test method N.4 in Part III, sub-section 33.3.1.6 of the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Revision 4),

Table 1: **Self Heating Substances Classification Criteria and Hazard Communication elements**

Category	Category 1	Category 2
Description	A positive result is obtained in a test using a 25 mm sample cube at 140°C (284°F)	A negative result is obtained in a test using a 25 mm cube sample at 140°C (284°F), a positive result is obtained in a test using a 100 mm sample cube at 140°C (284°F), and: (a) the unit volume of the chemical is more than 3 m ³ ; or (b) a positive result is obtained in a test using a 100 mm cube sample at 120°C (248°F) and the unit volume of the chemical is more than 450 liters; or (c) a positive result is obtained in a test using a 100 mm cube sample at 100°C (212°F).

Table 2 shows some of the label elements for self heating chemicals. The precautionary statements are not included due to space limitations of this fact sheet. See §1910.1200 for complete classification and labelling information.

Table 2: Hazard Communication Label Elements for self heating chemicals

Category	Category 1	Category 2
Pictogram		
Signal Word	Danger	Warning
Hazard Statement	Self-heating; may catch fire	Self-heating in large quantities; may catch fire

Important considerations in classifying a substance as self heating chemicals:

- 1- Chemicals with a temperature of spontaneous combustion higher than 50°C (122°F) for a volume of 27 m³ are not classified as self-heating chemicals.
- 2- Chemicals with a spontaneous ignition temperature higher than 50°C (122°F) for a volume of 450 liters are not classified in Category 1 of this class.
- 3- The classification procedure for self-heating chemicals need not be applied if the results of a screening test can be adequately correlated with the classification test and an appropriate safety margin is applied.

To learn more...

- OSHA: Hazard Communication : <https://www.osha.gov/dsg/hazcom/index.html>
- SCHC site: <http://www.schc.org/osha-alliance>

The information contained in this sheet is believed to accurately represent current OSHA HCS requirements. However, SCHC cannot guarantee the accuracy or completeness of this information. Users are responsible for determining the suitability and appropriateness of these materials for any particular application.

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